

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013904

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-12 _____ received by this Authority on 07.02.2006 with letter of 07.02.2006
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013904

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-12</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-12</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-12</u>	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1. This report makes reference to the following documents:			
D2: US-A-4 379 059 (HOCKEY ET AL) 5 April 1983 (1983-04-05)			
D3: WO 91/08281 A (UNILEVER PLC; UNILEVER N.V) 13 June 1991 (1991-06-13)			
D4: EP-A-0 283 951 (NATIONAL STARCH AND CHEMICAL CORPORATION; NATIONAL STARCH AND CHEMICAL) 28 September 1988 (1988-09-28)			
D5: WO86/02076			
D6: DE3246676			
2. Novelty			
The present application relates to polysaccharide derivatives comprising maleimide units (Ib) or the corresponding open units (Ia) (claim 1). The present application also relates to the corresponding method of producing these polysaccharide derivatives (claim 5) and the use of these polysaccharide derivatives for bonding to cellulose fibers (claim 10).			

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

D2 to D6 do not disclose any polysaccharide derivatives comprising maleimide units (Ib) or the corresponding open units (Ia) (D2: see column 2, lines 17-31 ; D3: see formula III on page 8; D4: see claim 1; D5: see formula on page 4; D6: see claim 1).

The subject matter of claims 1 to 12 of the present application is novel over D2 to D6.

3. **Inventive step**

D2 is considered to be the closest prior art. D2 discloses a softener containing hydroxyethyl-substituted polysaccharides.

The subject matter of the present application differs from the subject matter of D2 in that the polysaccharides contain maleimide units (Ib) or the corresponding open units (Ia).

The problem addressed by the present application was that of providing a polysaccharide derivative for treating cellulose fibers.

This problem is solved by the polysaccharide derivatives comprising maleimide units (Ib) or the corresponding open units (Ia) (see example).

This solution is not suggested in D2 and is also not obvious from a combination of D2 with D3 to D6 because these documents do not disclose these units.

The subject matter of claims 1 to 12 of the

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013904

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

present application therefore involves an
inventive step in relation to D2 to D6.